13:49:26 OCA PAD INITIATION - PROJECT HEADER INFORMATION 08/09/88

Active

Project #: [redacted]
Center # : R6557-0A0
Cost share #:
Center shr #:
Rev #: 0
OCA file #:
Work type : RES
Document : AGR
Contract entity: GTRC

Contract#: AGR DTD 880803
Prime #:
Mod #:

Subprojects ? : N
Main project #:

Project unit: EE
Unit code: 02.010.118
Project director(s):
SCHLAG J H EE

Sponsor/division names: SIEMINS ENERGY & AUTOMATION / TUCKER, GA
Sponsor/division codes: 268 / 037

Award period: 880801 to 881031 (performance) 881031 (reports)

Sponsor amount	New this change	Total to date
Contract value	17,211.00	17,211.00
Funded	17,211.00	17,211.00
Cost sharing amount		0.00

Does subcontracting plan apply ?: N

Title: COMPUTER AIDED CONTROL ALGORITHM GENERATOR

PROJECT ADMINISTRATION DATA

OCA contact: Brian J. Lindberg 894-4820

Sponsor technical contact

SAM F. FARAG
(404)496-8648
MGR, MOTOR CONTROL DEV.
3496 MONTREAL INDUSTRIAL WAY
TUCKER, GA 30084

Sponsor issuing office

FREDERICK W. POWERS

ASSISTANT GENERAL COUNSEL
SIEMENS ENERGY & AUTOMATION, INC.
223 PEREMETER CTR PKWAY, ATLANTA GA

Security class (U,C,S,TS) : U
Defense priority rating : N/A
Equipment title vests with: Sponsor
NONE PROPOSED OR ANTICIPATED.

ONR resident rep. is ACO (Y/N): N
N/A supplemental sheet
GIT

Administrative comments -
AN ADVANCED PAYMENT OF $4,300 HAS BEEN REQUESTED FROM THE SPONSOR.
SPONSOR TO PAY AN ADDITONAL $1,700 FOR SOFTWARE RIGHTS.

12 / 88

GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION

NOTICE OF PROJECT CLOSEOUT

Date 2/13/89

Project No. E-21-F19 Center No. R6557-0A0

Project Director J. H. Schlag School/Lab EE

Sponsor Siemens Energy and Automation

Contract/Grant No. Agreement dtd. 8/3/88 GTRC XX GIT ____

Prime Contract No. ____

Title Computer Aided Control Algorithm Generator

Effective Completion Date 10/31/88 (Performance) 10/31/88 (Reports)

Closeout Actions Required:

____ None
_X_ Final Invoice or Copy of Last Invoice
____ Final Report of Inventions and/or Subcontracts - Patent Questionnaire sent to P/I
____ Government Property Inventory & Related Certificate
____ Classified Material Certificate
____ Release and Assignment
____ Other ____

Includes Subproject No(s). ____

Subproject Under Main Project No. ____

Continues Project No. ____ Continued by Project No. ____

Distribution:

_X_ Project Director
_X_ Administrative Network
_X_ Accounting
_X_ Procurement/GTRI Supply Services
_X_ Research Property Management
___ Research Security Services

_X_ Reports Coordinator (OCA)
_X_ GTRC
_X_ Project File
_X_ Contract Support Division (OCA) (2)
___ Other ____

17 August 1988

Mr. Sam Farag
Siemans Energy and Automation
3496 Montreal Industrial Way
Tucker, Georgia 30084

Subject: Progress Report on Project "Computer Aided Control Algorithm Generator"

The following is a summary of the project tasks and their status after two weeks of the project:

1. Survey of Ladder Graphics Software

This task is complete with the result that none of the commercial ladder graphics software packages are suitable for all of the project goals. Specification sheets on several packages have been obtained and will be supplied to Siemens at the end of the contract.

2. Select a Ladder Graphics Software Package

This tasks is complete. The intial development software package will be ORCAD since it is readily available. The net list produced by ORCAD will also be compatible with PCAD. These compatability will make conversion to PCAD instead of ORCAD easy to accomplish. The net list produced by ORCAD or PCAD will be converted to a ladder diagram by software developed in this project.

3. Define Ladder Symbols

This tasks is complete. The ladder symbols will be defined by the NEMA "Standard Elementary Diagram Symbols".

4. Draw the Ladder Symbols

This task has not been started.

5. Define the Software Program Structure

This task has not been started.

6. Define the I/O Ports and Bits

This task has not been started

7. Define the Data Table

This task is complete. The data table format has been defined and approved by Siemens.

8. Develop Conversion Algorithm

This task has not been started.

9. Write Software Program in FORTRAN

This task has not been started

10. Write Software Program in C

This task has not been started

11. Input Test Ladders

This task has not been started

12. Compile Test Ladders

This task has not been started

13. Verify Test Ladders

This task has not been started

GEORGIA INSTITUTE OF TECHNOLOGY
SCHOOL OF ELECTRICAL ENGINEERING
ATLANTA, GEORGIA 30332

TELEPHONE: (404) 894-

29 August 1988

Mr. Sam Farag
Siemans Energy and Automation
3496 Montreal Industrial Way
Tucker, Georgia 30084

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3. Define Ladder Symbols

This tasks is complete. The ladder symbols will be defined by the NEMA "Standard Elementary Diagram Symbols".

4. Draw the Ladder Symbols

This task is waiting data on symbol names from Siemens Corp.

5. Define the Software Program Structure

This task has been started. The basic structure will be two independent programs. The first program will convert the ladder net list into the boolean expressions and the second program will generate the assembly language and machine language code from the boolean expressions.

6. Define the I/O Ports and Bits

This task is waiting data from Siemens Corp.

7. Define the Data Table

This task is complete. The data table format has been defined and approved by Siemens.

8. Develop Conversion Algorithm

This task has been initiated.

9. Write Software Program in FORTRAN

This task has not been started

10. Write Software Program in C

This task has not been started

11. Input Test Ladders

This task has not been started

12. Compile Test Ladders

This task has not been started

13. Verify Test Ladders

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GEORGIA INSTITUTE OF TECHNOLOGY
SCHOOL OF ELECTRICAL ENGINEERING
ATLANTA, GEORGIA 30332

ELEPHONE: (404) 894-

12 September 1988

Mr. Sam Farag
Siemans Energy and Automation
3496 Montreal Industrial Way
Tucker, Georgia 30084

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6. Define the I/O Ports and Bits

This task is waiting data from Siemens Corp.

7. Define the Data Table

This task is complete. The data table format has been defined and approved by Siemens.

8. Develop Conversion Algorithm

This task has been restarted with a new algorithm.

9. Write Software Program in FORTRAN

The ladder conversion part of the software package has been started in the Fortran language.

10. Write Software Program in C

The machine language generation part of the software package has been started in the C language.

11. Input Test Ladders

Some sample test ladders have been entered into the Orcad program.

12. Compile Test Ladders

This task has not been started

13. Verify Test Ladders

This task has not been started

GEORGIA INSTITUTE OF TECHNOLOGY
SCHOOL OF ELECTRICAL ENGINEERING
ATLANTA, GEORGIA 30332

TELEPHONE: (404) 894-

26 September 1988

Mr. Sam Farag
Siemans Energy and Automation
3496 Montreal Industrial Way
Tucker, Georgia 30084

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This task has been started. The basic structure will be two independent programs. The first program will convert the ladder net list into the boolean expressions and the second program will generate the assembly language and machine language code from the boolean expressions.

6. Define the I/O Ports and Bits

This task is waiting data from Siemens Corp.

7. Define the Data Table

This task is complete. The data table format has been defined and approved by Siemens.

8. Develop Conversion Algorithm

This task has been restarted with a new algorithm. This algorithm has been coded in Fortran and tested on simple ladder circuits.

9. Write Software Program in FORTRAN

The first version of the ladder conversion part of the software package has been completed in the Fortran language. The software has been tested on a number of ladder diagrams and a number of additional features have been added it Siemens request.

10. Write Software Program in C

The first version of the machine language generation part of the software package has been completed in the C language. The software has been tested with a number of test boolean expressions.

11. Input Test Ladders

Some sample test ladders have been entered into the Orcad program. Two ladder circuits used by Siemens have been entered.

12. Compile Test Ladders

Several test ladder circuit have been compiled by both parts of the software package.

13. Verify Test Ladders

This task has not been started

GEORGIA INSTITUTE OF TECHNOLOGY
SCHOOL OF ELECTRICAL ENGINEERING
ATLANTA, GEORGIA 30332

TELEPHONE: (404) 894-

10 October 1988

Mr. Sam Farag
Siemans Energy and Automation
3496 Montreal Industrial Way
Tucker, Georgia 30084

Subject: Progress Report on Project "Computer Aided Control Algorithm Generator"

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3. Define Ladder Symbols

This tasks is complete. The ladder symbols will be defined by the NEMA "Standard Elementary Diagram Symbols".

4. Draw the Ladder Symbols

This task is complete, and the symbols have been approved by Siemens.

5. Define the Software Program Structure

This task has been started. The basic structure will be two independent programs. The first program will convert the ladder net list into the boolean expressions and the second program will generate the assembly language and machine language code from the boolean expressions. A third program has been defined that will transfer the machine code to the control microprocessor.

6. Define the I/O Ports and Bits

This task is waiting data from Siemens Corp.

7. Define the Data Table

This task is complete. The data table format has been defined and approved by Siemens.

8. Develop Conversion Algorithm

This task has been restarted with a new algorithm. This algorithm has been coded in Fortran and tested on simple ladder circuits. More tests have been sucessfully completed on this algorithm. This algorithm handles all ladder diagram except case where signals flow bidirectional through contacts.

9. Write Software Program in FORTRAN

The first version of the ladder conversion part of the software package has been completed in the Fortran language. The software has been tested on a number of ladder diagrams and a number of additional features have been added it Siemens request.

10. Write Software Program in C

The first version of the machine language generation part of the software package has been completed in the C language. The software has been tested with a number of test boolean expressions.

11. Input Test Ladders

Some sample test ladders have been entered into the Orcad program. Two ladder circuits used by Siemens have been entered.

12. Compile Test Ladders

Several test ladder circuit have been compiled by both parts of the software package.

13. Verify Test Ladders

Several test ladders have been manually verified.

GEORGIA INSTITUTE OF TECHNOLOGY
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ATLANTA, GEORGIA 30332

TELEPHONE: (404) 894-

26 October 1988

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3. Define Ladder Symbols

This tasks is complete. The ladder symbols will be defined by the NEMA "Standard Elementary Diagram Symbols".

4. Draw the Ladder Symbols

This task is complete, and the symbols have been approved by Siemens.

5. Define the Software Program Structure

This task has been started. The basic structure will be two independent programs. The first program will convert the ladder net list into the boolean expressions and the second program will generate the assembly language and machine language code from the boolean expressions. A third program has been defined that will transfer the machine code to the control microprocessor. A fourth program has been defined which will ask the user questions and store the answers in the microprocessor memory.

6. Define the I/O Ports and Bits

This task is waiting data from Siemens Corp.

7. Define the Data Table

This task is complete. The data table format has been defined and approved by Siemens.

8. Develop Conversion Algorithm

This task has been restarted with a new algorithm. This algorithm has been coded in Fortran and tested on simple ladder circuits. More tests have been sucessfully completed on this algorithm. This algorithm handles all ladder diagram except case where signals flow bidirectional through contacts.

9. Write Software Program in FORTRAN

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10. Write Software Program in C

The first version of the machine language generation part of the software package has been completed in the C language. The software has been tested with a number of test boolean expressions.

11. Input Test Ladders

Some sample test ladders have been entered into the Orcad program. 29 ladder circuits used by Siemens have been entered.

12. Compile Test Ladders

29 test ladder circuit have been compiled by both parts of the software package.

13. Verify Test Ladders

Several test ladders have been manually verified.